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Draft Environmental Impact Statement
McNally/Sherman Pass Restoration

Cannell Meadow Ranger District, Sequoia National Forest
Tulare County, California

Entomology Input
(FHP Report No. C03-2)

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Introduction

The primary entomological issue of concern for the McNally/ Sherman Pass Restoration Project is that insects will buildup in fire killed and injured trees and "spread to the adjacent unburned forest" (DEIS, Chapt.1, Issue #7, p12).

Insects, specifically bark and engraver beetles in the family Scolytidae (Coleoptera), are capable of attacking and building up populations in fire injured, but not killed, conifers. The potential exists for these populations to subsequently attack additional fire injured and uninjured conifers. Based on the tree species involved in the McNally Fire, the following species of bark and engraver beetles are of potential concern; 1) the western pine beetle (*Dendroctonus brevicomis*) in ponderosa pine; 2) the mountain pine beetle, *D. ponderosae*, in ponderosa, sugar and lodgepole pine; 3) the Jeffrey pine beetle, *D. jeffreyi*, in Jeffrey pine; 4) the fir engraver, *Scolytus ventralis*, in red and white fir; 5) the California five-spined ips, *Ips paraconfusus*, all pines in area; 6) the pine engraver, *I. pini*, Jeffrey, ponderosa and lodgepole pine; and 7) the emarginate ips, *I. emarginatus,* all pines in area.

The red turpentine beetle, *D. valens*, which can attack all pine species in the area, is often found attacking the base and/or lower bole of fire injured trees. Unless other tree debilitating factors are involved, such attacks alone generally do not result in the death of the tree. Wood borers, including the flatheaded or metallic wood borers (Coleoptera: Buprestidae), roundheaded wood borers or longhorned beetles (Coleoptera: Cerambycidae) and horntails or wood wasps (Hymenoptera: Siricidae) frequently attack fire killed and fire injured trees. Wood borers contribute to the decomposition process and can cause a reduction in the commercial value of

salvaged material, but are not a threat to healthy, uninjured trees. In addition, beetles in the genus *Phloeosinus* sp. (cedar bark beetles) may attack fire injured incense-cedar but rarely attack and kill healthy trees.

Observations

Field surveys were conducted on June 5, 10 and 11, 2003. Areas surveyed included 1) stands east of the Cherry Hill Road in the vicinity of Poison Meadow and the Brush Creek drainage along 23S14 and west of the Cherry Hill Road along 23S36 and 23S41; 2) stands along the Sherman Pass road; 3) stands in the general vicinity of Paloma Meadow and along 22S41 in the Bonita, West and Danner Meadow areas; and 4) northwest of Black Rock along 21S02 and 21S19 south of Beach Meadow.
Survey results are summarized as follows:

1) Current red turpentine beetle attacks at the base/ lower bole of fire injured pines were observed scattered discontinuously throughout the burned area. Red turpentine beetle activity may continue into 2004 but is not expected to significantly contribute to additional tree mortality.

2) Wood borers and ambrosia beetles were found attacking fire killed and fire injured trees, primarily Jeffrey and lodgepole pines. The wood borer attacks on the lower bole of fire injured trees appeared largely restricted to fire scorched areas on the bark and were frequently associated with clear pitch streaming and sometimes reddish boring dust. Ambrosia beetle attacks on fire injured trees were also limited to fire scorched areas of the bark and were often accompanied by whitish boring dust.
3) There was no indication of current bark beetle activity in the burned areas surveyed. No recent or currently infested trees were found and no pattern of recent or current crown fade (other than directly due to fire injury) was observed that would indicate attacks in the summer or fall of 2002 following the burn.

4) The pine engraver, *Ips pini,* was found attacking a downed, uprooted, lodgepole pine along 22S41 near Paloma Meadow and in some downed lodgepole in an unburned area near West Meadow. There is some potential for the pine engravers to emerge later in the summer and attack the tops of standing pine, but unless there is a large amount of recently downed lodgepole and/or fresh lodgepole slash throughout the area that is infested with the pine engraver, the potential is probably low.
5) *Ips emarginatus* and possibly *I. pini*, were found attacking Jeffrey pine in a plantation south of Beach Meadow along 21S19. The McNally Fire killed or injured trees in localized areas of the plantation. Outside the burned areas, some trees within the plantation were exhibiting various stages of recent crown fade. Examination under the bark of a few of these trees revealed parent adults, larvae and a few pupae of the emarginate ips. Incipient radiate galleries were also found, suggesting that *Ips pini* may also be active in the area. The plantation appeared to be

overstocked resulting in additional stress on the trees. There is a reasonable likelihood that the pine engravers will continue to be active in the plantation and consideration might be given to destroying trees currently infested with the engravers or removing the infested trees from the site.

Conclusions

Based on the above observations from the surveys conducted in early June, 2003, there is little basis for concern that bark beetles are building up populations in fire injured trees and will "spread to the adjacent unburned forest". From an historical perspective, bark beetle outbreaks did not develop after two recent fires on the Sequoia National Forest (the Manter Fire in 2000 and the Stormy Fire in 1990). Bark beetle outbreaks have not been reported after several other wildfires in California since the 1990's. There is no evidence at this time that bark beetle-related mortality is contributing significantly to fuel loadings. However, personnel should continue to look for evidence of bark beetle activity throughout the summer and fall of 2003 and request additional evaluations as appropriate.

Alternatives

None of the four alternatives as currently stated in the DEIS (Chapt. 2) address vegetation management activities designed to prevent or reduce future unacceptable bark beetle-related impacts.